

National Aeronautics and  
Space Administration  
**Goddard Space Flight Center**  
Greenbelt, MD 20771



Reply to Attn of 216

June 30, 1999

Mr. Richard Bishop  
General Manager  
4400 Forbes Boulevard  
Lanham, MD 20706

Dear Mr. <sup>Dick</sup>Bishop:

We have completed our evaluation of Raytheon STX Corporation's (RSTX's) performance under Contract NAS5-98156 for support of the Space Science Data Operations Office (SSDOO). For the period December 1, 1998, through May 31, 1999, RSTX is awarded a fee of \$101,682 which is approximately 89 percent of the available fee of \$114,700. The Contracting Officer will forward a modification to the contract under separate cover for payment of earned award fee. The available and earned fee matrix is enclosed.

The support provided by the RSTX Astrophysics Group received an "excellent" rating of 93 percent. We noted as outstanding: All of the level zero XTE data received each month were processed during that month. All of the processed data were archived and sent to the HEASARC for public access by the end of the data's proprietary period. As a result, all task requirements were met on time. In addition, exceptional effort was required to process bad XTE data manually and to get them merged into the HEASARC archive. A better methodology of tracking ASCA data holdings within the HEASARC archive was tested and implemented. The Contractor did an outstanding job supporting users of the ASCA data products and making the data production system more efficient. The Contractor staff has been involved in defining, designing and starting development of parts of the Astro-E processing software. This work has been focused on creating preliminary software that will be used for spacecraft attitude and coordinate conversion. A new version of AMASE (Release 3) was ready for public release. The Contractor staff applied the latest available Web tools to enhance the AMASE user interface, resulting in much better search and display capabilities. The Contractor provided consistent, quality support in the operation of the ADC. The ADC is now recognized as the lead center in the astronomical community for XML application and development. The Contractor continued providing very good support for the ROSAT mission and its users. Special tests were run in order for SAO to investigate potential problems present in the science algorithms.

Performance of the RSTX Space Physics Group was "very good" with a rating of 90 percent. We noted as outstanding: Upgrades to the CDAWeb system and software include completion of the suite of image display options, a new (demonstration) Java-based zoom/color adjustment applet, and six other enhancements. Many posters were created for various science meetings and for the hallways of Building 26. Magnetospheric modeling and analysis support include work on three papers in various stages. In the area of space physics acquisitions and value-added services, key support included maintaining key data access capabilities (i.e. the SPyCAT interface to NDADS, which is in turn an integral part of the pipeline enabling the CDAWeb service); supporting multiple streams of nearline data ingest; and supporting a NASA HQ's directed emergency effort to expand/validate the population of the "Space Physics Data Availability Catalog (SPDAC)".

Performance in the RSTX Archiving and Information Systems at NSSDC category received an "excellent" rating of 91 percent. Noted as outstanding was the excellent performance of the NOST staff during this period. Key dates dependent on international and US meetings were met for deliverables. The work has directly supported the worldwide recognition of NOST and NSSDC as world class, as evidenced by our invitation to the first NSF advisory archive workshop. The Contractor closely worked with the ATR and has achieved excellence on conversion of the CDF tools to Java and development of basic CDF Java APIs that allow data to get in and out of CDF.

Support for the Orbiting Satellites Project received an "excellent" rating of 95 percent. The Contractor provided outstanding and timely support in generation of the OSP preliminary Year 2000 Business continuity and contingency plans and mission status tracking matrix.

The Technical Management activity received a "very good" rating of 88 percent. Raytheon management had a number of very successful all-hands meetings with its employees and informed them of a number of changes such as Performance-Based-Contracting (PBC), Desk-top Computing Plan, Y2K, and ISO9000 activities in the SSDOO. This has made the transition of the work and the introduction of new activities much easier for the organization as a whole.

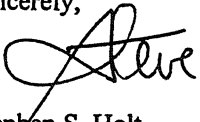
Year 2000 Compliance work received a "very good" rating of 88 percent. Raytheon completed its Y2K activities during the reporting period.

Performance in the area of Cost Control received a "very good" rating of 84 percent. There was considerable interaction between the Contracting Officer and the Contractor to clarify several issues regarding the PBC and Level-of-effort (LOE) portions of this contract. Reports for this period indicate that LOE costs were above those negotiated while the PBC portion of the contract showed a corresponding underrun. We are confident that the Contractor is taking corrective action to fix this situation and ensure that staff are properly charging their time between the LOE and PBC parts of the contract. The Contractor will provide new CTRs for the LOE tasks.

Performance in the area of Business Management received a "very good" rating of 86 percent. RSTX was responsive to all seven contract modifications and requests for information. Accuracy and format of 533 reports improved after the beginning of the contract period. RSTX is well on its way to meeting the small and small disadvantaged business goals.

I am generally pleased with the overall support provided during this evaluation period. Please continue to strive for excellence in all areas of support of the SSDOO.

Sincerely,



Stephen S. Holt  
Fee Determination Official

Enclosure

Under Separate Cover  
Modification to the Contract

cc:

100/Mr. A. Diaz  
100/Mr. W. Townsend

**AVAILABLE AND EARNED FEE MATRIX**

**NAS5-98156**

**Period 1**

**December 1, 1998 - May 31, 1999**

<u>Performance Evaluation Category</u>	<u>Available Percent</u>	<u>Fee Dollars</u>	<u>Earned Percent</u>	<u>Fee Dollars</u>
Technical Performance & Program Management	65	\$74,555	91	\$67,731
Cost Control & Business Management	<u>35</u>	<u>\$40,145</u>	<u>85</u>	<u>\$33,951</u>
TOTAL	100%	\$114,700	89	\$101,682

National Aeronautics  
Space Administration  
**Goddard Space Flight Center**  
Greenbelt, MD 20771

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Reply to Attn of: 216

April 17, 2000

Raytheon STX Corporation  
Attn: Dr. Ashok Kaveeshwar  
Vice President  
4400 Forbes Boulevard  
Lanham, MD 20706

Dear Dr. Kaveeshwar:

We have finalized our evaluation of Raytheon STX Corporation's (RSTX's) performance under Contract NAS5-98156 for support of the Space Science Data Operations Office (SSDOO). For the period June 1, 1999, through November 30, 1999, RSTX is awarded a fee of \$99,204 which is approximately 87 percent of the available fee of \$114,700. The Contracting Officer will forward a modification to the contract under separate cover for payment of earned award fee. The available and earned fee matrix is enclosed.

The support provided by the RSTX Astrophysics Group received an "excellent" rating of 95 percent. We noted as outstanding: During this six-month period, the XTE Science Data Center (XSDC) cut 1,168 tapes, 126 of which were delivered to approved Guest Investigators. All of the level zero data received each month were archived and processed during that month. All of the processed data were archived and sent to the HEASARC for public access by the end of the data's proprietary period. The contractor has done a superb and outstanding job supporting the Astro-E project. They have established and are maintaining a ground calibration archive for the mission which is publicly accessible. Contractors did an outstanding job supporting ASCA users of the data products and making the data production system more efficient. The contractors made data available to PIs in a shorter time period as well as improving the overall efficiency of the processing system. COBE paper documents were indexed and prepared for delivery to the scanning vendor in a timely manner. Significant progress was made toward the development of a new COBE DIRBE data browsing tool. Support for Interoperable Systems for Archival Information Access (ISAIA) included development of an XML interchange format for data that is general enough to encompass tables, sets of tables, images, animations, and spectra. The contractor has assisted in bringing the ROSAT data processing and archiving part of the mission to a successful completion. The contractor team identified gaps in the project's data holdings which were due to both missing data and data products that had been corrupted or inaccessible. A reprocessing is being carried out to bring the archive to as much a complete state as possible. Support for the Astronomical Data Center (ADC) included excellent progress on the Multispectral Astrophysical Metadata interface. The contractor has refined the XML Document Type Definition (DTD) for data table metadata and developed rule-based software to convert any structured ASCII document into a simple XML format. Astrophysics Multi-mission Archive

Search Engine (AMASE) support included database loading and query software development, as well as code development for the migration of Illustra-formatted datasets.

Performance of the RSTX Space Physics Group was “very good” with a rating of 88 percent. We noted as outstanding: Software development and maintenance support included continuing upgrades to the CDAWeb system, continuing maintenance of the SSCWeb system software, and continued development of the new Java-based SKTEditor tool. The contractor also provided key support to sustain the ISTP data pipeline. For space physics acquisition and value-added services the support included maintaining key data access, supporting data ingest and value-added data conversions, continuing maintenance of the SSCWeb database, planning for directory and file conventions to be used in the new NSSDC RAID disk anonymous FTP system, and maintaining and enhancing the OMNIWeb system. In the area of Magnetospheric Modeling and Analysis, the contractor staff effectively carried out the research and analysis. Over the six month period, 24 separate tasks were completed. The Graphics Group has effectively provided support for the NSSDC request task, Code 600 participation in the AGU conference held in Boston, Mass., AAS conference held in Chicago Illinois, and original artwork for many projects.

Performance in the RSTX Archiving and Information Systems at NSSDC category received a “very good” with a rating of 90 percent. We noted as outstanding: The NOST staff provided excellent support in planning, organizing, and conducting the Archival Workshop on Ingest, Identification, and Accreditation Standards (AWIICS). This included establishment of Web pages for announcements, registration, tracking of papers and documents, and a final report. The prototype Information System Product Creator software was transformed into deliverable products known as the Data Migrator Utility (DMU) and Package Splitter Utility (PSU). The DMU and PSU software have become critical to the NDADS migration effort and future ingest pipelines. The Sun Earth Connection (SEC) Education Forum contractor created materials for the Eclipse99 web site and supported the event activities, attended conferences, organized and staffed SEC booths at the conferences to publicize SEC and SECEF EPO efforts, and supported SEC programs such as the eclipse high visibility events, teacher workshops, meeting presentations, etc. The contractor, in support of CDF, released CDF 2.7 to the public on time and on budget despite replying to time-consuming user support questions. The new release contains bug fixes for the problems discovered during the course of the CDF APIs development. The Publication and PLES staff worked diligently in creating, updating, and maintaining value-add pages related to the Apollo 11 anniversary and various planetary fact sheets. The staff showed exemplary performance in the coordination and support of several educational events and programs during this reporting cycle.

Support for the Orbiting Satellites Project received an “excellent” rating of 95 percent. We noted as outstanding: The contractor provided excellent support in generation of the OSP final version of the SMMOP Year 2000 Business continuity and contingency plans.

The Technical Management activity received a “very good” rating of 90 percent. Raytheon management continued to have a number of very successful all hands meetings with their employees. All other SSDOO contractors and government personnel jointly participate making

these meetings an excellent forum for informing the employees of the current status on a wide range of SSDOO, GSFC, and NASA wide activities that effect the organization.

Year 2000 Compliance work received an "excellent" rating of 97 percent. Raytheon has continued its Y2K activities as required by new thrusts during this reporting period.

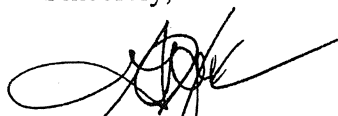
Performance in the area of Business Management received a "very good" rating of 89 percent. RSTX was responsive to all nine contract modifications and requests for information. Raytheon continues to be proactive in its communication with the Government. In the area of small and small disadvantaged business, it appears that Raytheon is experiencing difficulty meeting the goals set forth in the contract.

Performance in the area of Cost Control received a "satisfactory" rating of 72 percent. I am very pleased that Raytheon agreed to absorb the full impact of the retroactive indirect rate increase for calendar year 1999 and agreed to incorporate indirect rate ceilings for all years into the contract. This goes a long way toward assuring that we can continue to provide the first rate service that our customers have grown accustomed to. Although I am pleased with the settlement of the indirect rate issue, I am concerned that we continue to experience an overrun under the level-of-effort portion of the contract. While I recognize that Raytheon's agreement to absorb a portion of the indirect rate increase lessens the burden to the Government, cost control is imperative in this era of shrinking budgets.

Communication between Government and Contractor financial personnel remained positive during this period and Raytheon continues to support Government requests for information in a timely manner. The 533 Financial Reports continue to be submitted in a timely manner but could be improved by timely subcontractor billing.

Except as noted in the Cost Control area, I am generally pleased with the overall support provided during this evaluation period. Please continue to strive for excellence in all areas of support of the SSDOO.

Sincerely,



Stephen S. Holt  
Fee Determination Official

Enclosure

Under Separate Cover  
Modification to the Contract

cc:

100/Mr. A. Diaz

100/Mr. W. Townsend

**AVAILABLE AND EARNED FEE MATRIX**  
**NAS5-98156**  
**Period 2**  
**June 1, 1999 – November 30, 1999**

<u>Performance Evaluation Category</u>	<u>Available Percent</u>	<u>Fee Dollars</u>	<u>Earned Percent</u>	<u>Fee Dollars</u>
Technical Performance & Program Management	65	\$74,555	92	\$68,292
Cost Control & Business Management	<u>35</u>	<u>\$40,145</u>	<u>77</u>	<u>\$30,912</u>
TOTAL	100%	\$114,700	87%	\$99,204

National Aeronautics and  
Space Administration  
**Goddard Space Flight Center**  
Greenbelt, MD 20771

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Reply to Attn of:

216

June 28, 2000

Dr. Ashok Kaveeshwar  
Vice President  
Raytheon STX Corporation  
4400 Forbes Boulevard  
Lanham, MD 20706

Dear Dr. Kaveeshwar:

We have completed our evaluation of Raytheon STX Corporation's (RSTX's) performance under Contract NAS5-98156 for support of the Space Science Data Operations Office (SSDOO). For the period December 1, 1999, through May 31, 2000, RSTX is awarded a fee of \$93,991, which is approximately 82 percent of the available fee of \$114,700. The Contracting Officer will forward a modification to the contract under separate cover for payment of earned award fee. The available and earned fee matrix is enclosed.

The support provided by the RSTX Astrophysics Group received an "excellent" rating of 96 percent. We noted as outstanding: The RXTE Science Data Center (XSDC) recovered from a required halt in processing that occurred in the prior performance period. Software was developed by the XSDC to handle new data fields and to enhance the XSDC pipeline data checks. In the span of four months, the XSDC efficiently processed and delivered to the HEASARC nine months of XTE data and eliminated the entire five-month backlog caused by the failure of the High Gain Antenna on XTE in September 1999. Staff released a new COBE DIRBE data browsing tool, developed excellent explanatory text for the browser, and prepared a poster that describes the tool. The staff's early active involvement in the SIRTf Legacy Science program led to a significant role for the Astrophysics Data Facility in at least two proposal teams. Staff reviewed and commented on prototype SWAS data products, installed and tested SWAS data analysis software, and participated in planning a SWAS data archive interface. The staff did an outstanding job developing the processing software, calibration database and supporting the Astro-E GOF. A multi-mission pipeline was developed that could be used for both ASCA and Astro-E. Raytheon has performed superbly supporting the ASCA mission with limited resources. Fifteen months of data was reprocessed using a better GIS gain calibration,



which resulted in better science data. The HEASARC was being supported through the use of more efficient data transfer methods and an ASCA source catalog based on automatic source detection from processing was compiled. Raytheon supported the GOF and user community by providing data and expertise to the ROSAT Results Archive effort. The staff has been instrumental in developing the best and most complete data archive of the mission through their courageous efforts. The task manager has done an excellent job hunting down missing data and coordinating the end of mission tasks.

Performance of the RSTX Space Physics Group was "excellent" with a rating of 91 percent. We noted as outstanding: Software development and maintenance support included continuing upgrades to the CDAWeb system, continuing maintenance of the SSCWeb system software, and outstanding performance in a series of critical interactions with respect to early IMAGE data support. Raytheon also provided key support to sustain the ISTP data pipeline. For graphics and visualization support, many posters were created for various science meetings and display in Building 26 including: a poster describing the IMAGE Satellite, a poster displaying images from many of the data sets archived at the SSDOO, a poster describing colliding galaxies, and posters for the American Geophysical Union (AGU) conference. GSFC "Take Our Daughters to Work Day" tasks included: designing and printing 85 various-sized posters to be posted around Goddard to advertise the event; providing demonstrations, tours, photo souvenirs, and stickers for more than 40 visitors; and completing a Milky Way video which included substantial numbers of 2- and 3-dimensional animations. Raytheon created many IMAGE animations for use in a press conference on a very tight schedule. All of the animations were of excellent quality. For space physics acquisition and value-added services, the support included: maintaining key data access, supporting data ingest and value-added data conversions, continuing maintenance of the SSCWeb database, planning for directory and file conventions to be used in the new NSSDC RAID disk anonymous FTP system, and maintaining and enhancing the OMNIWeb system. For Magnetospheric Modeling and Analysis: Raytheon effectively carried out the research and analysis. Over the six-month period, 23 separate tasks were completed.

Performance in the RSTX Archiving and Information Systems at NSSDC category received a "very good" with a rating of 90 percent. We noted as outstanding: The NOST staff provided highly valuable comments on draft standards including the Data Entity Dictionary Specification Language - Abstract Syntax, PVL Syntax, and XML/DTD Syntax. Liaison with ANSI NCITS X3 L8 work on data element registration was provided through a presentation to the Metadata Registry Workshop in Santa Fe comparing ISO 11179 and CCSDS Control Authority registration of data definitions. To meet the schedule for IMAGE data ingest, including a port to DEC Alpha, a crash effort was started which resulted in a fully working version by the end of May. This included a requirements document and an operations guide, along with extensive testing for performance and data volume.

Sun-Earth Connection Education Forum (SECEF) support included: coordinating SECEF activities with Education and Public Outreach (EPO) leads for the various SEC missions, assisting in development of the directory with the other education forums and the Department of Education's Guide to Educational Materials (GEM), proposing new EPO programs and taking the initiative to get them started with the community such as the Space Weather Exhibit. Support for the small systems and networking activities include: monitoring and trouble shooting all SSDOO networking activities, integrating new hardware when necessary, and maintaining building 26 and 28 detailed configurations. CDF support included: Completing the conversion of the text-GUI-based CDFexport tool a user-friendly GUI in Java, initiating the conversion of the text-based-GUI CDFedit tool to a user-friendly GUI in Java, and providing on-going CDF user support services.

The Technical Management activity received a "very good" rating of 90 percent. Raytheon management did an outstanding job in participating in managing the System Administration (SA) Training effort. This effort resulted in the preparation of SA training materials and administering both the Advanced and Basic classes for which over 800 SAs were trained. Raytheon management continues to fully support the very successful "all hands" meetings with all SSDOO employees.

One technical area is of concern: Once again, the Data Systems Development task has been evaluated as poor/unsatisfactory. Little was accomplished on this task during the performance period. A draft evolution plan was available at the start of the performance period. On the last day of the performance period, the system evolution plan was delivered as a set of "DRAFT NSSDC Improvement Recommendations" which is considered a deviation from the task assignment to provide a system evolution plan. The plan is required so it can be submitted to the CCB with specific steps and resources required to evolve our environment.

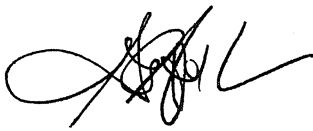
Performance in the area of Business Management received a "very good" rating of 81 percent. RSTX was responsive to all fourteen contract modifications and requests for information. Raytheon continues to be proactive in its communications with the Government. In the area of small and small disadvantaged business, it appears that Raytheon is now on track to meet the goals set forth in the contract. I am concerned with the variances between the 533 planned dollars and the 533 actual dollars for this period. Of particular concern are differences in the other direct cost category, especially in the subcontractor area. These differences make budgetary planning extremely difficult.

Performance in the area of Cost Control received a "satisfactory" rating of 62 percent. Once again, I must state that I am pleased with the settlement of the indirect rate issue; however, I am concerned with the overrun that continues to be experienced under the level-of-effort portion of the contract. I trust that Raytheon will work with the Government to negotiate the overrun over the next evaluation period.

Communication between Government and Contractor financial personnel remained positive during this period, and Raytheon continues to support Government requests for information in a timely manner. The 533 Financial Reports continue to be submitted in a timely manner but could be greatly improved by better estimates and timely subcontractor billing.

Except as noted in the previous paragraphs, I am generally pleased with the overall support provided during this evaluation period. Please continue to strive for excellence in all areas of support of the SSDOO.

Sincerely,

A handwritten signature in black ink, appearing to read 'S. Holt', with a large, stylized flourish extending from the end of the signature.

Stephen S. Holt  
Fee Determination Official

Enclosure

Under Separate Cover  
Modification to the Contract

cc:

100/Mr. A. V. Diaz

100/Mr. W. Townsend

213/Ms. R. Acevedo

## AVAILABLE AND EARNED FEE MATRIX

NAS5-98156

Period 3

December 1, 1999 – May 31, 2000

<u>Performance Evaluation Category</u>	<u>Available Percent</u>	<u>Fee Dollars</u>	<u>Earned Percent</u>	<u>Fee Dollars</u>
Technical Performance & Program Management	60%	\$68,820	92%	\$63,366
Cost Control & Business Management	40%	\$45,880	67%	\$30,625
TOTAL	100%	\$114,700	82%	\$93,991

National Aeronautics and  
Space Administration  
**Goddard Space Flight Center**  
Greenbelt, MD 20771

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Reply to Attn of: 216

January 11, 2001

Dr. Ashok Kaveeshwar  
Vice President  
Raytheon STX Corporation  
4400 Forbes Boulevard  
Lanham, MD 20706

Dear Dr. Kaveeshwar:

We have completed our evaluation of Raytheon STX Corporation's (RSTX's) performance under Contract NAS5-98156 for support of the Space Science Data Operations Office (SSDOO). For the period June 1, 2000, through November 30, 2000, RSTX is awarded a fee of \$102,307, which is approximately 89 percent of the available fee of \$114,701. The Contracting Officer will forward a modification to the contract under separate cover for payment of earned award fee. The available and earned fee matrix is enclosed.

The support provided by the RSTX Astrophysics Group received an "excellent" rating of 97 percent. Performance on the RXTE Science Data Center (XSDC) task was excellent during this reporting period. Operations were transferred to the RXTE Science Operations Center (SOF) on October 1, 2000. As a result, work under this task was essentially terminated October 1, 2000. The Contractor's early active involvement in the SIRTf Legacy Science program led to a significant role for the Astrophysics Data Facility in multiple proposals. Although none of these proposals was successful, RSTX's involvement contributed to the overall success of the SIRTf Legacy Science program and heightened awareness in the community of our group's capabilities. Your staff quality-checked and archived the first 6 months of SWAS data, reviewed prototype SWAS data browsing products, developed the SWAS Archive Interface web site, and continually improved the Archive Interface as additional data and documentation became available. RSTX has done an excellent job maintaining ASCA processing and distribution operations with very limited and shrinking resources. The processing script must be mission independent so it can be used with future missions such as Swift. Your staff has been finishing up ROSAT processing of data sets that, for various reasons, have not been processed and hence are missing from the final archive. RSTX is to be commended for working to produce as complete a final archive as possible, in spite of fewer personnel with specific knowledge working on the task. Your staff has done a superb job putting together a processing system to be used with Swift. They responded to the Project requests for evaluating the OPUS processing system and elected to use the system from ASCA/Astro-E. They developed ICD's with the MOC, HEASARC and European Data Centers. RSTX performed systems administration work, software installation, and implementation of a cluster backup scheme for the GLAST prototype

archive. Supporting the ISAIA project, your staff presented papers and tutorials and interacted with the community on the usage of the eXtensible Data Format (XDF) in several key astronomical conferences where interoperability between data centers was discussed. RSTX proposed an XML format to encapsulate astronomical data in FITS format, called FITSML, which was the subject of an Applied Information System Research proposal submitted to NASA Headquarters. AMASE was migrated successfully from the SGI platform to the Sun platform by the UMD collaborators with support from your staff. RSTX has also successfully ported the Web interface code to the Sun platform. For the CONCAT task, your staff made good progress in deriving systems requirements from a set of science scenarios, with a final report being developed.

Performance of the RSTX Space Physics Group was "excellent" with a rating of 93 percent. Support of continuing upgrades to the CDAWeb system and software, including additional work on new virtual variables and associated code (e.g., quality-flag filtering of data) and on new plot types to support new IMAGE data (e.g. plasmagrams) is commendable. Similarly, support of continuing upgrades to the SSCWeb system software, including completing repairs to the Java-based Calculator applet and residual work related to the move of SSCWeb from the www-spf server to the "wharfrat" machine is noteworthy. Your staff developed a very effective interface to a new IMP 8 bow shock data set by adapting previously developed fthelper software. RSTX effectively responded to requests for graphics and visualization support. Task accomplishments for this period include: creation of original animations and graphics for the IMAGE mission; development of new techniques of describing the Earth's magnetosphere to prepare for upcoming news conferences and/or press briefings; and support of the special events surrounding the retirement of Dr. Steve Holt as director of Space Sciences at GSFC. Your staff updated the SECEF web site, including assembly of the first level of hierarchy of site, refinement of graphics for both the current site and new site, and preparation of photos and part of the web site for two presentations in December 2000. Your staff provided maintenance and enhancement of the IMAGE SMOC web site, included fixing bugs in the IMAGE Data Delivery website (e.g., broken queries, incorrect interface behavior, misleading reporting of errors, and inaccessible files). For Magnetospheric Modeling and Analysis, your staff has effectively carried out requested research and analysis. Over the six-month evaluation period, 16 separate tasks were completed.

Performance in the RSTX Archiving and Information Systems at NSSDC category was deemed "excellent" with a rating of 94 percent. In your role as the Sun Earth Connection (SEC) Education Forum contractor, you proposed new EPO programs and took the initiative to get them started with the community. As an example, we noted your efforts toward the AESP/ERC workshop and the coming education council education conference, where your staff spent extraordinarily long hours (evenings included) assuring that the SEC entries in EDCATS (for SECEF and SEC missions) were correct by adding required information and deleting redundant information. Small Systems and Networking support included installing, configuring, testing and maintaining computer hardware and software for code 630 and 603 personnel, as directed by the ATR. The NOST staff provided excellent support by participating in the international (CCSDS/ISO) standards activities and workshops, such as the recent CCSDS Rutherford Appleton Laboratory workshop in the UK, acting as editor of the revised Parameter Value

Language standard and associated PVL Tutorial. The PVL tutorial was completed by RSTX, was approved by the CCSDS Management Council, and will be published as a CCSDS Green Book. In support of the Data Systems Development task, your staff prepared and presented a review of past data system development activities and recommendations associated with evolution planning. An area of concern is the need for further progress by the Information Systems Group in becoming more proactive in interactions with other relevant groups (primarily on the PBC side of the contract), particularly in defining pathways toward an optimal integration of NSSDC's data and information management environment.

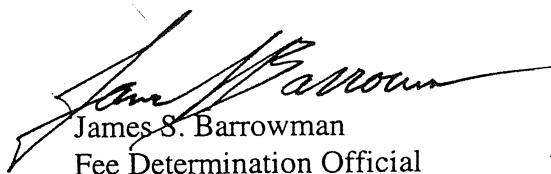
The Technical Management activity received an "excellent" rating of 91 percent. During the performance period, Raytheon ITSS management has been working toward meeting a very tight budget guideline for both FY 2000 and FY 2001. RITSS management began monthly NSSDC vision meetings to assist in the development of long-range plans for the Data Center. RITSS management continued to hold monthly task and Senior Staff meetings and supported the RITSS/Government bi-monthly all hands meetings to keep Project Staff informed on issues important to NASA, GSFC, and Raytheon, as well as other SSDOO Contractors. Another notable action that RITSS management has been working on includes your participation in the development and coordination efforts for a March 2001 Science Data Centers Symposium, to be cosponsored by the Planetary Data System and The Physical Oceanography DAAC at JPL.

Performance in the area of Business Management received a "very good" rating of 81 percent. RSTX continues to submit timely reports and to comply with contractual requirements, and has been proactive in communication of contractual issues. I want to again encourage you to reduce variances between planned and actual monthly expenditures as reflected in your 533 reporting, since they continue to make our budgetary planning difficult; lags in subcontractor billing seem to be a major factor in these variances. I also want to encourage you to aggressively pursue exceeding the goals established in the Small/Small Disadvantaged Subcontracting Plan of the contract, since the most recent trend information indicates that these goals may not be met.

Performance in the area of Cost Control received a "very good" rating of 84 percent, which is a marked improvement over the prior evaluation period. A slight under-running of total costs during the period (relative to negotiated values), coupled with the responsiveness of your financial staff in responding to Government information requests, contributed significantly to this improvement.

I want to commend the RSTX Staff for its efforts during this evaluation period. Except as noted in the previous paragraphs, I am very pleased with the overall support provided under the contract. Please continue to strive for excellence in all areas of support to the SSDOO.

Sincerely,



James S. Barrowman  
Fee Determination Official

Enclosure

Under Separate Cover  
Modification to the Contract

cc:

100/Mr. A. V. Diaz

100/Mr. W. Townsend

213/Ms. R. Acevedo



**AVAILABLE AND EARNED FEE MATRIX**  
**NAS5-98156**  
**Period 4**  
**June 1, 2000 – November 30, 2000**

<u>Performance Evaluation Category</u>	<u>Available Percent</u>	<u>Fee Dollars</u>	<u>Earned Percent</u>	<u>Fee Dollars</u>
Technical Performance & Program Management	60%	\$68,821	93%	\$64,313
Cost Control & Business Management	<u>40%</u>	<u>\$45,880</u>	<u>83%</u>	<u>\$37,994</u>
TOTAL	100%	\$114,701	89%	\$102,307

National Aeronautics and  
Space Administration  
**Goddard Space Flight Center**  
Greenbelt, MD 20771



Reply to Attn of 216

June 28, 2001

Dr. Ashok Kaveeshwar  
Vice President  
Raytheon STX Corporation  
4400 Forbes Boulevard  
Lanham, MD 20706

Dear Dr. Kaveeshwar:

We have completed our evaluation of Raytheon STX Corporation's (RSTX's) performance under Contract NAS5-98156 for support of the Space Science Data Operations Office (SSDOO). For the period December 1, 2000 through May 31, 2001, RSTX is awarded a fee of \$102,887, which is approximately 86 percent of the available fee of \$119,692. The Contracting Officer will forward a modification to the contract under separate cover for payment of earned award fee. The available and earned fee matrix is enclosed.

The support provided by the RSTX Astrophysics Group received an "excellent" rating of 93 percent. The Astrophysics activity highlights include the development of a novel online research tool that greatly facilitates access to COBE DIRBE calibrated time-ordered data, enabling calculation of IR point source photometry, and drafted an announcement marking the release of the tool to the science community. The research tool is being heavily used. Also, RSTX provided public access to the second six months of SWAS data through the SWAS data archive (web) interface, updated and maintained the SWAS data browsing capability, and evaluated trends in usage statistics, enabling the Government to assess the importance to the community of providing files in FITS format. In addition, the ROSAT computer hardware was disassembled in late December 2000. Task activities during the event period include the final clean up of offices, coordination with the German mission partners, and distribution of remaining ROSAT data resources. Regarding the Astronomical Data Center (ADC), Raytheon provided consistent, quality support in the operation of the ADC. Your staff completed the migration of the ADC server and archives to the new ADC workstation. The staff began operations of the semi-automated SGML-to-XML pipeline to ingest published journal tables directly from University of Chicago Press into the ADC repository. Significant progress was made in developing and testing a pipeline for transforming the ADC's legacy holdings into XML. Multispectral Astrophysics Metadata Interface activities included adding a new feature in the ADC Data Viewer to allow download of XDF files, making excellent progress in prototyping a table viewer based on XDF data, and enhancing the XSLT script to work with the XDF-based ADC XML data sets. Swift support included developing and maintaining working relationships with several project partners, implementation work on the Swift pipeline, and progress in the conversion of the

with the community, and spending extraordinarily long hours assuring that the SEC entries in EDCATS (for SECEF and SEC missions) were correct. Development and testing of the Java-based CDF tools (CDFEdit and CDFExport) were completed, and CDF 2.7.1 was released. In addition, your staff took the initiative to begin testing the CDF Perl API's (that have unofficially been available for Unix and Windows) so that the API's would be available to users as a CDF optional package for all platforms that CDF currently supports. The NOST staff has upgraded the Package Generator Utility (PGU) software so that the same set of software supports both the IMAGE generation of Archival Information Packages (AIP) and the NSSDC data migration effort, on multiple platforms, based on setting appropriate configuration information. This eases software maintenance and documentation, and it facilitates the incorporation of new functionality as required. Despite losing two of your staff of three System Administrators (SA's) during this period, RSTX still met all system management requirements. NASIRC bulletins and other IT security sources were monitored for patches, and system software was maintained at a level resulting in no system compromises. At least one major denial of service attack was successfully fended. The back-up scheme was improved to provide increased reliability and performance and the data was migrated from an unreliable magneto-optical jukebox to a large magnetic disk. Also, your staff provided feedback on numerous aspects/bugs in new JEDS interface. I would like to mention one area that could be improved for the next period. While the Graphics and Visualization Facility staff has continued to create high quality graphics and visualization products, there have been instances where tasks have "fallen through the cracks" and have thus not been provided in a timely fashion. I am confident that this situation can be easily corrected.

The Technical Management activity received a rating of 90 percent, which is in the "very good" range. RSTX Management provided very responsive support to the SSDOO Project. Management has been continuing to work toward meeting a very tight budget guideline for FY 2001. This required a number of creative approaches to Project staffing and other resources management, including layoffs. Regarding the layoffs, your management worked closely with their employees to help them find new positions thereby reducing stress and anxiety. It is important to note, however, that a number of financial issues still remain open such as providing the cost data for the DCE per task, having the subcontractors bill or report their costs in a timely manner, and completing the work plan within the Government's budget guidelines. Management is providing full support to SSDOO on number of important proposal efforts (MIDEX and CIO proposals). Volunteer support that your staff has provided for many E&PO activities is of tremendous value and greatly appreciated (e.g., BOTBALL 2001).

Performance in the area of Business Management received a "very good" rating of 83 percent. RSTX continues to submit timely reports and to comply with contractual requirements, and has been proactive and flexible in the resolution of contractual issues. I want to again stress the need to aggressively pursue meeting the goals established in the Small/Small Disadvantaged Business Subcontracting Plan of the contract, since the trend information continues to indicate that these goals may not be met.

Performance in the area of Cost Control received a "good" rating of 74 percent, which is a downturn relative to the prior evaluation period. The combination of over-running total cost

while under-running the direct labor hours during the period (relative to negotiated values) was cited as a concern by the Performance Evaluation Board. I encourage you to review this cost trend information to look for possible ways to bring corrective action.

I want to commend the RSTX Staff for its efforts during this evaluation period. Except as noted in the previous paragraphs, I am very pleased with the overall support provided under the contract. Please continue to strive for excellence in all areas of support to the SSDOO.

Sincerely,

A handwritten signature in black ink, appearing to read "James S. Barrowman", with a long horizontal flourish extending to the right.

James S. Barrowman  
Fee Determination Official  
Enclosure

Under Separate Cover  
Modification to the Contract

cc:

100/Mr. A. V. Diaz

100/Mr. W. Townsend

213/Ms. R. Acevedo

AVAILABLE AND EARNED FEE MATRIX

NAS5-98156

Period 5

December 1, 2000 – May 31, 2001

<u>Performance Evaluation Category</u>	<u>Available Percent</u>	<u>Fee Dollars</u>	<u>Earned Percent</u>	<u>Fee Dollars</u>
Technical Performance & Program Management	60%	\$71,815	92%	\$66,213
Cost Control & Business Management	<u>40%</u>	<u>\$47,877</u>	<u>77%</u>	<u>\$36,674</u>
TOTAL	100%	\$119,692	86%	\$102,887

National Aeronautics and  
Space Administration  
**Goddard Space Flight Center**  
Greenbelt, MD 20771



Reply to Attn of: 216

January 11, 2002

Raytheon Information Technology & Scientific Services  
Dr. Ashok Kaveeshwar  
Vice President  
4400 Forbes Boulevard  
Lanham, MD 20706

Dear Dr. Kaveeshwar:

We have completed our evaluation of Raytheon Information Technology and Scientific Services' (RITSS') performance under Contract NAS5-98156 for support of the Space Science Data Operations Office (SSDOO). For the period June 1, 2001 through November 30, 2001 (Period Six), RITSS is awarded a fee of \$104,731, which is approximately 88 percent of the available fee of \$119,692. The Contracting Officer will forward a modification to the contract under separate cover to initiate payment of earned award fee. The available and earned fee matrix is enclosed.

The support provided by the RITSS Astrophysics Group received an "excellent" rating of 95 percent. Of particular note was your oversight for the migration of COBE data files from a VMS environment to a Unix environment, spot-checking the files to ensure that they were valid, and making appropriate adjustments to the COBE web site. RITSS staff ensured that new SWAS data were made publicly available promptly upon delivery by the SWAS team, improved the documentation provided through the SWAS Archive Interface Web site, and constructively critiqued the SWAS data product design, providing helpful information to the SWAS team. For GLAST support, your staff began the process of upgrading the Beowulf Cluster to the most current RedHat Linux OS revision. The design of the Swift Data Center has been largely completed. RITSS staff gave an excellent presentation on the design effort to the Swift Project for the Swift Ground System Critical Design Review at the end of November. Your staff have taken on additional Swift requirements, not included in the original design, requiring significant design and programming effort and completed them with dispatch, saving the Swift Mission Operations Center (and thus the Swift Ground System) over \$300,000 in development costs. For ADC support, RITSS implemented and participated in the identification of innovative data management techniques that take full advantage of state-of-the-art information technology. An external Science Steering Committee has commended the ADC for the services it provides, and Raytheon has been responsive to the recommendations provided by the Steering Committee.

Performance of the RITSS Space Physics Group was "excellent" with a rating of 94 percent. Your staff continued upgrades to the CDAWeb system and software, continued maintenance of the SSCWeb system software and support for data ingest, including further work to ensure the accurate and robust ingest of Cluster orbit data from the ESA project. In addition, RITSS staff performed a quick and successful effort to adapt elements of the CDMS s/w to allow direct retrieval of Cluster PP/SP/JP data products from the Cluster server at RAL to CDAWeb, thus removing any dependence on the CDHF for this service. This was a key step for SPDF and CDAWeb to be designated the new US Cluster Science Data Center effective December 2001. Your staff provided critical analysis and testing to assess strategies

and feasibility to reduce the cost of delivering current CDHF functionality, an effort urgently requested by the Polar Project to help it respond to new NASA Headquarters budget directions. RITSS has maintained and enhanced the IMAGE SMOC website in a timely and efficient manner. Space physics support activities included a great deal of special ISIS problem analysis for both makeCDF and DIONaS issues, inputs to the NSSDC archiving plan, contributions to the SEC Senior Review proposal/presentation, maintenance and fixes to the makeCDF program, and continuing science review of operation of the SKTEditor application.

Performance in the RITSS Archiving and Information Systems at NSSDC category received an "excellent" rating with a 93 percent numerical score. RITSS' Visualization group has been responsive in producing quality graphics to meet a large number of requests, as well as providing quality support for web design. Your staff continued discussions and development for new NSSDC data processing requirements to handle compound AIP's, including generating updated scenarios, schedules, algorithms, and issues memorandums. They identified upgrades to PGU software to better facilitate future enhancements, and they updated the development environment. RITSS staff developed initial "Status Monitor" and "PGU-Grouping" requirements, interfaces, and design. Your staff has been very attentive to any issues generated by the ingest of data to NSSDC, including the creation of AIP's and their processing by DIONaS. Your staff excelled in preparing, supporting, and hosting the CCSDS XML workshop in September 2001, so much so that a special Event Report was submitted to bring particular attention to this superb effort. Sun Earth Connection Education Forum (SECEF) support included continuing to gather appropriate SEC science education resources for input to the resource registry, and continuing to maintain a leading role in the Office of Space Science web site and materials evaluation process. As an indication of the importance and quality of the work being done by GSFC a SECEF, the forum received a NASA Group Achievement Award during this review period. Your staff has been asked to participate in making CDF XML-ready and is in the process of familiarizing itself with the XML technologies on a time-available basis. This work was not originally anticipated at the beginning of this evaluation period, and the task sponsor is pleased with RITSS' conscientious attitude toward learning and applying new technologies. RITSS support for the Database, Reporting and Publishing subsystem of the Automated Remote Control Scanning System includes analyzing and scrubbing the overall original requirements and generating supportive derived requirements in the process. The staff effort of maintaining and updating data bases and metadata for planetary, Earth sciences, and selected astrophysics missions continued, in addition to responding to over 700 email and phone requests from external users and CRUSO. In addition, RITSS staff reviewed and updated hundreds of web pages.

The Technical Management activity received an "excellent" rating of 91 percent. During the performance period, RITSS management has been continuing to work toward meeting a very tight contract budget guideline for both FY 2001 and FY 2002. This required a number of creative approaches to project staffing and resources management. It is important to note, however, that a number of financial issues still remain open such as the cost for the DCE per task, having the subcontractors bill or report their costs in a timely manner, and completing their work plan within the Government's budget guidelines. RITSS management is providing full support to SSDOO on number of important proposal efforts (MIDEX and CIO proposals). Winning the MAGIC MIDEX would be an important step for SSDOO and GSFC.

There are two areas in technical performance that are cited as needing improvement. First, we believe that the commendable performance of the Visualization Group can be further enhanced by more proactively managing the workload. While certain animation/video issues stem from the lack of some specific equipment, the staff could nonetheless make performance improvements. Specifically, the work

of the Visualization Lab would benefit from a more production-oriented environment (i.e., work being catalogued and assigned a deadline for completion), with bottleneck and overload situations brought to the attention of the appropriate Government representative for prioritization guidance.

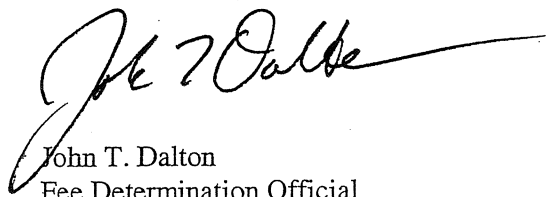
Secondly, RITSS was tasked to provide analysis, programming and model database implementation support to develop a new-generation NASA space radiation database for the Living With a Star (LWS) program. In the performance period, your staff was able to prepare several products. While these products should have led the project well into the implementation or prototyping phase, RITSS has been slow to begin implementation because of the lack of available staff. This delay, if continued, will adversely impact the timeline and overall success of the LWS DATM Project.

Performance in the area of Business Management received a "very good" rating of 89 percent. RITSS continues to submit timely reports and to comply with contractual requirements, and has been proactive and flexible in the resolution of contractual issues. Safety and Health performance, including and exemplary safety record and proactive efforts by RITSS management to deal with emotional health issues in the wake of the events of September 11, are particularly commendable. Performance in the area of meeting established small business and small disadvantaged business goals, while showing improvement, is still deficient in the area of small disadvantaged business utilization.

Performance in the area of Cost Control received a "good" rating of 76 percent. The continued over-running of total cost while under-running the direct labor hours during the period (relative to negotiated values) precluded this evaluation area from receiving a higher score. During the period, an overrun of 4.4% was negotiated for year three of the contract.

I want to commend the RITSS staff for its efforts during this evaluation period. I am very pleased with the overall support provided during this evaluation period, although as noted in the previous paragraphs there are areas of opportunity to improve performance. Please continue to strive for excellence in all areas of support of the SSDOO.

Sincerely,



John T. Dalton  
Fee Determination Official

Enclosure

Under Separate Cover  
Modification to the Contract

cc:

100/Mr. A. V. Diaz  
100/Mr. W. Townsend  
213/Ms. R. Acevedo



AVAILABLE AND EARNED FEE MATRIX

NAS5-98156

Period 6

June 1, 2001 – November 30, 2001

Performance <u>Evaluation Category</u>	<u>Available Percent</u>	<u>Fee Dollars</u>	<u>Earned Percent</u>	<u>Fee Dollars</u>
Technical Performance & Program Management	60%	\$71,815	93%	\$66,788
Cost Control & Business Management	<u>40%</u>	<u>\$47,877</u>	<u>79%</u>	<u>\$37,943</u>
TOTAL	100%	\$119,692	88%	\$104,731

National Aeronautics and  
Space Administration  
**Goddard Space Flight Center**  
Greenbelt, MD 20771

7



Reply to Attn of:

216

July 2, 2002

Raytheon Information Technology & Scientific Services  
Dr. Ashok Kaveeshwar  
Vice President  
4400 Forbes Boulevard  
Lanham, MD 20706

Dear Dr. Kaveeshwar:

We have completed our evaluation of Raytheon Information Technology and Scientific Services' (RITSS) performance under Contract NAS5-98156 for support of the Space Science Data Operations Office (SSDOO). For the period December 1, 2001 through May 31, 2002 (Period Seven), RITSS is awarded a fee of \$108,649, which is approximately 89 percent of the available fee of \$122,352. The Contracting Officer will forward a modification to the contract under separate cover to initiate payment of earned award fee. The available and earned fee matrix is enclosed.

The support provided by the RITSS Astrophysics Group received an "excellent" rating and a score of 94. Your staff did considerable Swift pipeline development during the task period. The baseline ASCA/ASTRO-E pipeline was ported to Linux commodity PC hardware and upgraded to support requirements imposed by Swift flight needs. The pipeline now supports CCSDS packet ingest, time sorting, and duplicate removal. The implementation of a system for establishing variable priorities for jobs running under the pipeline was implemented, and a new data transfer option was developed to support the Swift standard, DTS, for transfer of processed data to Swift archives. Software development continued with enhancements to a CCSDS packet display and edit package, Xing. Additional software development was done in support of project partners in science data coordinate conversion. For the GLAST task, your staff supported access by Code 660 Staff to the becker.gsfc.nasa.gov Beowulf cluster. The cluster was fully maintained and software upgrades and security upgrades were performed. RITSS continued to provide excellent support for the operation of the ADC. Your staff was diligent in their response to requests for information by several review teams that met during the period to decide the ultimate fate of the ADC. Specifically, RITSS provided information for reviews conducted by the Space Science Directorate Data Management Visiting Committee, a Space Science Directorate internal review team, the NASA Science Archives Working Group, and the ADC Science Steering Committee, while also presenting exhibits of ADC services at meetings of the American Astronomical Society. This was all accomplished in addition to the performance of routine services and despite budget and staffing reductions for the ADC task, and is very commendable.

Performance of the RITSS Space Physics Group was "excellent" with a rating of 96. Your staff continued upgrades to the CDAWeb system and software, including completing extensive rework of the detailed code to enable CDAWeb's (and SSCWeb's) move to IDL Version 5.3 and continuing work to functionally support newer data submissions, new virtual variables and associated displays and code to support IMAGE data (e.g. plasmagram displays) and improved ISIS ionogram displays. Also noteworthy were your efforts for sustained operation of the new Cluster retrieval and ingest s/w (supporting

SPDF/CDAWeb's role as the US CSDC), smooth operation of the ingest software for ongoing data ingest from other missions (including ACE, FAST, GOES, IMAGE and LANL) as well as several data flows transferred from the ISTP CDHF to CDAWeb as part of the continuing re-engineering of the ISTP CDHF into the new PWG ground system. Your ongoing maintenance of CDAWeb system operations and the integrity and accuracy of CDAWeb's database and database software along with support for software transfers and ongoing database updates by the CDAWeb mirror sites at MPE, RAL and ISAS and retrieval of statistics from these sites are excellent. Also, RITSS' active implementation work directly supporting key elements of the PWG re-engineering effort including porting of gif\_walk and NRT s/w to the NSSDC machine to support the rehosted ISTP web site was cited. The capabilities and usage of CDAWeb and SSCWeb, including their underlying databases, were featured in SSDOO's presentation to the SSD Visiting Committee review of data facilities in code 600. These key systems and the usage of these systems remain critical to HQ's satisfaction with our efforts and our sustained funding. RITSS supported the analysis of Radio Plasma Imager (RPI) data on IMAGE by performing in an outstanding manner and made major progress as it managed the IMAGE Science Center Web pages in a timely manner, increased the effectiveness of Specwidget (the IMAGE RPI Spectrogram program in IDL), modified Plotdensity (the IDL software used in the study of electron number density variations in the plasmasphere and trough region) and presented poster papers at the Fall 2001 and Spring 2002 AGU meetings. In addition, your staff presented correlated observations of the plasmasphere using data from the IMAGE RPI and EUV instruments, submitted an RPI paper to Journal of Geophysical Research on the correlated observations of plasma convection tails by the IMAGE RPI and EUV detectors, and found errors in IMAGE EUV CDF's and worked with instrument team members and SMOC personnel regarding possible solutions.

Performance in the RITSS Archiving and Information Systems at NSSDC category received an "excellent" rating with a score of 94. Your continued design and coding for software supporting multiple files within an NSSDC Archival Information Package (AIP) was cited as excellent. The major input files describing the multi-file grouping and the full list of files to be processed are being formed and extended to take advantage of XML and supporting software for increased flexibility and ease of development. The Package to Data File Restorer (PDFR) was completed and delivered, supporting the extraction of files from AIP's and their restoration to VMS, helping the NSSDC to validate overall migration processing and helping others who desire files in VMS form. Your support in developing software to meet NSSDC's evolving requirements for AIP creation and validation has continued to be extremely effective and productive, as well as robust. RITSS' standards development support has also been very productive and has constituted an essential component in the timely development of the DEDSL standards. Further, your staff has been an effective ambassador for NSSDC as a world-class archive in various international and US settings, something beyond what is called for in the task statements. Excellent support to the Sun Earth Connection Education Forum (SECEF) support included conducting workshops for teachers and meeting with numerous EPO contacts in formal and informal education groups, and alerting SECEF to education partnering opportunities such as the NASA Connect programs and use of NASA TV, and other unique opportunities for the future, such as the Venus Transit event. RITSS staff has continued to create high quality graphics and visualization products, providing support for the Code 600 directorate with many graphics and animation projects, as well as major support for SSDOO participation in the upcoming meeting of the American Geophysical Union, creating illustrations and poster presentations for several scientists. I am encouraged to hear of the pending implementation of a task reporting system for work in the Visualization Facility, and that support improved markedly during this period.

The Technical Management activity received a "excellent" rating and a 95 score. For this seventh period, RITSS management performed excellently in addressing a variety of challenging issues including decreased budgets and related productivity, morale, and staffing concerns. [REDACTED]

[REDACTED]. RITSS management gave ethics training to all staff and participated in the development of a cultural sensitivity course that addresses issues in communication between people with different backgrounds and orientations. [REDACTED]

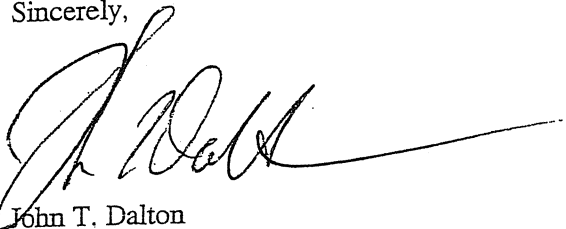
[REDACTED]. Community outreach and support included: the annual PC technology donations program; DuVal High School steering committee membership; Botball DC area steering committee membership and team sponsorships; a wide variety of education initiatives including INSPIRE, teacher training, Girl Scouts and other student mentoring; and DC Space Grant participation.

Performance in the area of Business Management received an "excellent" rating of 93 percent. RITSS continues to comply with contractual requirements, and has been proactive and flexible in the resolution of contractual issues. The PEB was pleased with RITSS' incorporation of subcontractor labor charges into the automated RITSS timekeeping system, thus ensuring more timely subcontractor billing and more accurate monthly expenditure reports. Safety and Health performance, as highlighted by a continuing exemplary safety record, is particularly commendable. I am pleased that performance in the area of small disadvantaged business utilization improved during the period and you are now meeting the established goal, and that you continue to exceed the overall small business utilization goal established in the contract.

Performance in the area of Cost Control received a "good" rating of 75 percent. It is recognized that part of the cost growth indirectly resulted from reductions in program budgets, which translated into reduced work on this contract. In adjusting the workforce, RITSS chose to retain the more experienced staff to continue the technical excellence that has clearly been demonstrated to date. This emphasis on achieving high technical performance, in part, kept your cost performance from achieving a higher score. However, even discounting these factors, the total cost overrun would still be significant.

I want to commend the RITSS staff for its efforts during this evaluation period, and for its performance and score improvement relative to the prior period. I am very pleased with the overall support provided during this evaluation period, and ask that you strive to continue your excellent performance in all areas of support of the SSDOO.

Sincerely,



John T. Dalton  
Fee Determination Official

Enclosure

Under Separate Cover  
Modification to the Contract

cc:

100/Mr. A. V. Diaz  
100/Mr. W. Townsend  
213/Ms. R. Acevedo

AVAILABLE AND EARNED FEE MATRIX  
 NAS5-98156  
 Period 7  
 December 1, 2001 – May 31, 2002

<u>Performance Evaluation Category</u>	<u>Available Percent</u>	<u>Fee Dollars</u>	<u>Earned Percent</u>	<u>Fee Dollars</u>
Technical Performance & Program Management	60%	\$ 73,411	95%	\$ 69,740
Cost Control	30%	\$ 36,706	75%	\$ 27,530
Business Management	<u>10%</u>	<u>\$ 12,235</u>	<u>93%</u>	<u>\$ 11,379</u>
TOTAL	100%	\$122,352	89%	\$108,649

National Aeronautics and  
Space Administration  
**Goddard Space Flight Center**  
Greenbelt, MD 20771

AF File



210.8

January 14, 2003

Raytheon Information Technology & Scientific Services  
Mr. Paul Thompson  
Vice President, ITSS  
4400 Forbes Boulevard  
Lanham, MD 20706

Dear Mr. Thompson:

We have completed our evaluation of Raytheon Information Technology and Scientific Services' (RITSS') performance under Contract NAS5-98156 for support of the Space Science Data Operations Office (SSDOO). For the period June 1, 2002 through November 30, 2003 (Period Eight), RITSS is awarded a fee of \$111,217, which is approximately 91 percent of the available fee of \$122,351. The Contracting Officer will forward a modification to the contract under separate cover to initiate payment of earned award fee. The available and earned fee matrix is enclosed.

Your efforts in the area of Technical Performance and Program Management were deemed "Excellent" and received a score of 94. The key events and technical highlights that led to this determination are cited in this letter. Additional information describing the PEB's assessment of technical performance across the four evaluation areas is provided as an attachment to this letter.

Your staff provided excellent support in a most professional manner for the activities in preparation for the closure of the ADC. The performance was particularly commendable in light of the fact that the task would soon end, creating job uncertainty for those performing on the task. Specifically, they completed the acquisition of several catalogs and converted over 200 legacy tabular data sets into XML using the semi-automated pipeline. They turned over work in-progress to CDS in France, and reconfigured the ADC website to redirect users to similar astrophysics services. RITSS staff continued to interact with the science community until the last day of operation so that the immediate effect of the ADC closure was largely imperceptible to the ADC's primary customer. RITSS CCMC staff consistently demonstrated technical leadership far beyond their duties and primary areas of responsibility, and their accomplishments continue to receive high customer appreciation from NASA, as well as from the general space science community. These accomplishments are repeatedly recognized as outstanding by multiple visitors to the CCMC facility, which include senior management officials from NASA and collaborating Government agencies. In addition, computer systems support has been excellent, and done with extraordinary insight and proficiency. The PWG project scientists and instrument teams are very pleased with the re-engineering of the Polar/Wind Data System.

Your staff demonstrated true initiative and dedication in accomplishing some SECEF activities, putting forth extra effort above-and-beyond what was expected for the task. Examples of this include continuing to maintain a leading role in the Office of Space Science materials evaluation process, volunteering to assist other SEC EPO people with their input to the EDCATS system, generating original ideas and pursuing numerous contacts with other organizations to increase the effectiveness of the SECEF activities, independently pursuing partnerships with other groups such as Maryland Science Center to leverage SECEF funding and reach out to a broader community, and making presentations and staffing exhibits on behalf of SEC science during evening and weekend hours. RITSS technical management has performed in an outstanding manner by fully addressing a variety of challenging issues, including decreased budgets and related productivity, morale, and other staffing concerns. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Performance in the area of Business Management received an "Excellent" rating of 93 percent. RITSS has been proactive and flexible in the resolution of contractual issues. Safety and Health performance, as highlighted by a continuing exemplary safety record, is particularly commendable. I am pleased that performance in the area of small disadvantaged business utilization continued to improve during this period. You are now exceeding the established goal, and you continue to significantly exceed the overall small business utilization goal established in the contract. The recently initiated transition of many Raytheon employees into the employ of QSS and SP Systems has so far gone smoothly; we will continue to monitor this significant change to ensure it does not impact contract technical performance or cost control.

Performance in the area of Cost Control received a "Very Good" rating of 84 percent. Cost control continues to be an issue under the CLIN 2 effort, as evidenced by the recently definitized overrun proposal from RITSS. It is recognized that some factors were outside your control. We are pleased, however, that you continued to assign high quality staff to work the hours necessary to achieve strong technical performance. We want to encourage you to continue to look for cost saving opportunities that do not impact the current excellent technical support.

I want to commend the RITSS staff for its efforts during this evaluation period, and for its performance and score improvement relative to the prior period. I am very pleased with the overall support provided during this evaluation period, and know that you will strive to continue your excellent performance in all areas of support of the SSDOO.

Cordially,



John T. Dalton  
Fee Determination Official

Enclosures (2)

Under Separate Cover  
Modification to the Contract

cc:

100/Mr. A. V. Diaz

100/Mr. W. Townsend

600/Dr. J. Ormes



**AVAILABLE AND EARNED FEE MATRIX**  
**NAS5-98156**  
**Period 7**  
**December 1, 2001 – May 31, 2002**

<u>Performance Evaluation Category</u>	<u>Available Percent</u>	<u>Fee Dollars</u>	<u>Earned Percent</u>	<u>Fee Dollars</u>
Technical Performance & Program Management	60%	\$ 73,411	94%	\$ 69,006
Cost Control	30%	\$ 36,705	84%	\$ 30,832
Business Management	<u>10%</u>	<u>\$ 12,235</u>	<u>93%</u>	<u>\$ 11,379</u>
<b>TOTAL</b>	100%	\$122,351	91%	\$111,217

## DETAILED ASSESSMENT OF TECHNICAL SUPPORT (BY PERFORMANCE AREA)

1). The support provided by the RITSS Astrophysics Group received an "Excellent" rating and a score of 95. Under difficult conditions due to late instrument delivery, your staff successfully worked with instrument teams to obtain badly needed sample telemetry data so that the Swift Data Center (SDC) development could proceed. This sample telemetry was used in testing and development of the SDC pipeline software. During this testing and development, problems with the XRT instrument telemetry were uncovered. RITSS Staff worked directly with the instrument team to correct these problems. RITSS developed software to correct the previously-obtained ground test telemetry and provided this software to the XRT team so that corrections could be made. Your staff provided excellent support in a most professional manner for the activities in preparation for the closure of the ADC. The performance was particularly commendable in light of the fact that the task would soon end, creating job uncertainty for those performing on the task. Specifically, they completed the acquisition of several catalogs and converted over 200 legacy tabular data sets into XML using the semi-automated pipeline. They turned over work in-progress to CDS in France, and reconfigured the ADC website to redirect users to similar astrophysics services. RITSS staff continued to interact with the science community until the last day of operation so that the immediate effect of the ADC closure was largely imperceptible to the ADC's primary customer. Beowulfs for Code 661 (148 processor), Code 630 (14 processor), and Code 930 (512 processor) were designed, hardware specified, software specified, and procurement initiated. Your staff assisted in the construction of the 148-processor Beowulf, bringing it online for use, and RITSS performed system administration functions (maintenance, upgrade, configuration, and security).

2) Performance of the RITSS Space Physics Group was "Excellent" with a rating of 95. Your staff was instrumental in migrating space weather models to new parallel computation platforms. The real-time magnetosphere simulation web page has been upgraded to include the time history of ionospheric potentials and field lines color-coded with their connectivity to Earth projected onto the noon-midnight plane of the magnetosphere. The highly successful web submission interface for Runs on Request has been further expanded with more options. RITSS CCMC staff consistently demonstrated technical leadership far beyond their duties and primary areas of responsibility, and their accomplishments continue to receive high customer appreciation from NASA, as well as from the general space science community. These accomplishments are repeatedly recognized as outstanding by multiple visitors to the CCMC facility, which include senior management officials from NASA and collaborating Government agencies. The Polar/Wind/Geotail re-engineering project web site port has been completed and Section 508 improvements made. The very large web site port and updating was completed with excellent timeliness and proficiency. Computer systems support has also been excellent, with extraordinary insight and proficiency. The PWG project scientists and instrument teams are very happy with this re-engineering effort. Your staff continued upgrades to the CDAWeb system and software, including completing work to achieve Section 508 compliance for both CDAWeb and SSCWeb, completing all known work on IMAGE datasets and promoting them to public view, expanding and improving display plots for the CDAWeb inventory, overseeing completion of the ingest of ISIS CDF's to CDAWeb, supporting the loading and correct handling of additional new datasets, continuing work to functionally support newer data submissions and

new virtual variables with associated displays and code, and continuing a critical role in planning for future CDAWeb enhancements. The capabilities and usage of key systems were featured in several key review presentations to NASA HQ's program managers, and in an overview presented to the new SEC Data and Computing Working Group. The key systems and the usage of these systems remain critical to NASA HQ's satisfaction with and budget support of GSFC's efforts. RITSS supported the analysis of Radio Plasma Imager (RPI) data on IMAGE by performing in an outstanding manner and making major progress in a number of areas. Your staff maintained accurate records of monthly accesses to the POETRY and IMAGE Science Center (SC) web sites, added new RPI spectrograms to the IMAGE SC site, added additional links to point to sources of IMAGE data, and brought IMAGE SC pages into compliance with new security and Section 508 directives. Additionally, RITSS moved the database of IMAGE UDF's to another disk and tested UDF software to insure that customers can continue analysis of new UDF data, upgraded and tested local copies of IMAGE analysis software produced by EUV and FUV mission teams, assisted a Code 690 scientist in the retrieval and use of RPI data, and created code to select time and frequency ranges of AKR seen in RPI dynamic spectrograms and display these data as a function of dipole tilt angle.

3) Performance in the RITSS Archiving and Information Systems at NSSDC category received an "Excellent" rating with a score of 92. Your continued support included coordinating SECEF activities with Education and Public Outreach (EPO) leads for the various SEC missions, conducting workshops for teachers and meeting with numerous EPO contacts in formal and informal education groups, attending numerous conferences and meetings in support of space science and Sun-Earth connection education, and creating publicity and educational materials for SECEF in various media (such as web pages, folders, flyers, etc.). In addition, your staff demonstrated true initiative and dedication in accomplishing some SECEF activities, putting forth extra effort above-and-beyond what was expected for the task. Examples of this include continuing to maintain a leading role in the Office of Space Science materials evaluation process, volunteering to assist other SEC EPO people with their input to the EDCATS system, generating original ideas and pursuing numerous contacts with other organizations to increase the effectiveness of the SECEF activities, independently pursuing partnerships with other groups such as Maryland Science Center to leverage SECEF funding and reach out to a broader community, and making presentations and staffing exhibits on behalf of SEC science during evening and weekend hours. On the CDF task, RITSS evaluated the various installation tools for Windows and Macintosh for automating the installation of the CDF distribution package, added the Cygwin Fortran compiler support on Windows, developed a utility that creates a SEC-compliant CDF file from a generic CDF file and a master CDF file, maintained and enhanced the CDF core library and CDF tools, and provided responsive and timely CDF user support service. The planetary/earth science task support included opening four new experiment records for the CONTOUR mission and eight new experiment records for the MESSENGER mission. New NEAR-Shoemaker data sets for the DVD data received from PDS were also opened during this performance period. Your staff efficiently updated information in the Muses-C, Nozomi, Lunar-A, CONTOUR, and Stardust spacecraft records and added over 50 new references to the TRF bibliographic database. RITSS made updates to the Moon Tree pages as a result of information it received due to the renewed interest generated by a number of online and print articles on the Moon Trees. Your staff developed a JAVA Server Page application to calculate distances

between celestial bodies. RITSS continued to maintain web server statistics, which recorded an average of 10,000,000 monthly accesses, primarily to the 2000+ planetary science pages maintained and developed by your staff.

4) The Technical Management activity received an "Excellent" rating and a 93 score. For this eighth period, RITSS management has performed in an outstanding manner by fully addressing a variety of challenging issues, including decreased budgets and related productivity, morale, and other staffing concerns. RITSS management has been working with SSDOO and other GSFC groups to maintain the expertise of the ADC staff as a result of HQ budget cuts, and held a number of meetings both internal to the project and with corporate representatives to resolve the issue of overruns in the CLIN 2 work. [REDACTED]

[REDACTED]. RITSS management also continues to work hard to ensure clear and accurate communication within the SSDOO, both between RITSS and SSDOO staff and with RITSS' external customers. These efforts included a continuation of regular Senior Staff and task-level meetings, monthly program reviews with the RITSS corporate office to ensure that any issues that require company-level attention or resources are addressed, bi-monthly all-hands meetings with the various SSDOO customers, and regularly-held task-level meetings with task initiators.